

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, that and joint inventor (if plural names are listed below) of the subject matter that is claimed and for which a patent is sought on the invention entitled <u>Amino-Terminal Modified Parathyroid Hormone (PTH) Analogs</u>, the specification of which is attached hereto unless the following box is checked:

was filed on November 23, 1999; as United States Application Number or PCT International Application Number 09/447,800; and was amended on November 23, 1999.

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information that is material to patentability as defined in 37 C.F.R. § 1.56.

I hereby claim foreign priority benefits under 35 U.S.C. § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT international application, which designated at least one country other than the United States listed below, and have also identified below any foreign application for patent or inventor's certificate, or PCT international application having a filing date before that of the application on which priority is claimed.

| Prior Foreign Application(s)  |   |  | Priority Claimed   |
|---|---|--|--|
| (Application No.)   | (Country)   | (Day/Month/Year Filed)   | □ Yes □ No   |
| (Application No.)   | (Country)   | (Day/Month/Year Filed)   | □ Yes □ No   |
|   | r 35 U.S.C. § 119(e) of any United S  |  | ed below.  |
| 60/110,152  | November 25, 1998   |  |  |
| (Application No.)   | (Filing Date)   |  |  |
| (Application No.)   | (Filing Date)   |  |  |
| international application design<br>of this application is not disclose<br>first paragraph of 35 U.S.C. § 1 | ar 35 U.S.C. § 120 of any United Stating the United States, listed belowed in the prior United States or PCT 12, I acknowledge the duty to discless available between the filing date of application. | and, insofar as the subject matter of international application in the masse information that is material to p | of each of the claims<br>nner provided by the<br>atentability as defined |
| (Application No.)   | (Filing Date)   | (Status - patented, per  | nding, abandoned)  |
| (Application No.)   | (Filing Date)   | (Status - patented, per  | iding, abandoned)  |

Appl. No. 09/447,800 Docket No. 0609.4630001

I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:

Robert G. Sterne, Esq., Reg. No. 28,912; Edward J. Kessler, Esq., Reg. No. 25,688; Jorge A. Goldstein, Esq., Reg. No. 29,021; Samuel L. Fox, Esq., Reg. No. 30,353; David K.S. Cornwell, Esq., Reg. No. 31,944; Robert W. Esmond, Esq., Reg. No. 32,893; Tracy-Gene G. Durkin, Esq., Reg. No. 32,831; Michele A. Cimbala, Esq., Reg. No. 33,851; Michael B. Ray, Esq., Reg. No. 33,997; Robert E. Sokohl, Esq., Reg. No. 36,013; Eric K. Steffe, Esq., Reg.No. 36,688; Michael Q. Lee, Esq., Reg. No. 35,239; Steven R. Ludwig, Esq., Reg. No. 36,203; Raz E. Fleshner, Esq., Reg. No. 34,331; John M. Covert, Esq., Reg. No. 38,759; and Linda E. Alcorn, Esq., Reg. No. 39,588.

Send Correspondence to:

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C. 1100 New York Avenue, N.W. Suite 600 Washington, D.C. 20005-3934

Direct Telephone Calls to:

(202) 371-2600

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

| Full name of sole or first inventor  F. Richard Bringhurst |   |  |  |  |
|--|---|--|--|--|
| Signature of sole or first invent                          | tor Thuckoul Sun la Z/10/00 Date                      |  |  |  |
| Residence  | USA   |  |  |  |
| Citizenship  | USA   |  |  |  |
| Post Office Address  | 7 TOWNSIDE LANG                                       |  |  |  |
|  | CUALPOLE, MA 02081                                    |  |  |  |
| Full name of second inventor<br>Hisashi Takasu             |   |  |  |  |
| Signature of second inventor                               | Hirash Takan 2/14/00 Date                             |  |  |  |
| Residence  | Japan   |  |  |  |
| Citizenship  | Japan   |  |  |  |
| Post Office Address  | Tokura 1-13-17 B-303, Mishima City, Shizuoka 411-0044 |  |  |  |
|  | Japan   |  |  |  |

Appl. No. 09/447,800 Docket No. 0609.4630001

| Full name of third inventor Thomas J. Gardella              |             |
|---|-------------|
| Signature of third inventor Thomas & Hardelle               | 2/10/08 atc |
| Residence $V S A$   |             |
| Citizenship USA   |             |
| Post Office Address 1045 Greendale Ave.<br>Needhan MA 02492 |             |
| Needham MA 02492  |             |
|   |             |





The Assignee hereby appoints the following U.S. attorneys to prosecute this application and any continuation, divisional, continuation-in-part, or reissue application thereof, and to transact all business in the U.S. Patent and Trademark Office connected therewith: Robert Greene Sterne, Esq., Reg. No. 28,912; Edward J. Kessler, Esq., Reg. No. 25,688; Jorge A. Goldstein, Esq., Reg. No. 29,021; Samuel L. Fox, Esq., Reg. No. 30,353; David K.S. Cornwell, Esq., Reg. No. 31,944; Robert W. Esmond, Esq., Reg. No. 32,893; Tracy-Gene G. Durkin, Esq., Reg. No. 32,831; Michele A. Cimbala, Esq., Reg. No. 33,851; Michael B. Ray, Esq., Reg. No. 33,997; Robert E. Sokohl, Esq., Reg. No. 36,013; Eric K. Steffe, Esq., Reg. No. 36,688, Michael Q. Lee, Esq., Reg. No. 35,239; Steven R. Ludwig, Esq., Reg. No. 36,203; Raz E. Fleshner, Esq., Reg. No. 34,331; John M. Covert, Esq., Reg. No. 38,759; and Linda E. Alcorn, Esq., Reg. No. 39,588. The Assignee hereby grants said attorneys the power to insert on this Power of Attorney any further identification that may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office.

Send correspondence to:

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C. 1100 New York Avenue, N.W. Suite 600 Washington, D.C. 20005-3934 U.S.A.

Direct phone calls to 202-371-2600.

| FOR:       | The General Hospital Corporation                             |  |  |  |  |
|------------|--|--|--|--|--|
| SIGNATURE: | \$ /   |  |  |  |  |
| BY:        | David J. Glass, Ph.D.  |  |  |  |  |
| TITLE:     | Associate Director for Patents, Office of Technology Affairs |  |  |  |  |
| DATE:      | 1 Mm 30, 2000  |  |  |  |  |

## Certificate Under 37 C.F.R. § 3.73(b)

| Applicant/Patent Owner: F. Richard Bringhurst, Hisashi Takasu and Thomas J. Gardella  |
|---|
| Application No./Patent No.: 09/447,800 Filed/Issue Date: November 23, 1999  |
| Entitled: Amino-Terminal Modified Parathyroid Hormone (PTH) Analogs   |
| The General Hospital Corporation , a Non-profit corporation (Name of Assignee) , a Non-profit corporation (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)   |
| states that it is:  |
| 1. [X] the assignee of the entire right, title, and interest, or  |
| 2. [] an assignee of an undivided part interest   |
| in the patent application/patent identified above by virtue of either:  |
| A. [X] An Assignment from the inventor(s) of the patent application/patent identified above. The assignmen was recorded in the Patent and Trademark Office at Reel, Frame, or for which a copy thereof is attached.  OR   |
| B. [] A chain of title from the inventor(s) of the patent application/patent identified above to the current assignee as shown below:   |
| 1. From: To: To: The document was recorded in the Patent and Trademark Office at Reel, Frame, or for which a copy thereof is attached.  |
| 2. From: To: To: The document was recorded in the Patent and Trademark Office at Reel, Frame, or for which a copy thereof is attached.  |
| 3: From: To: To: The document was recorded in the Patent and Trademark Office at Reel, Frame, or for which a copy thereof is attached.  [ ] Additional documents in the chain of title are listed on a supplemental sheet.  |
| [X] Copies of assignments or other documents in the chain of title are attached.  [NOTE: A separate copy (i.e., the original assignment document or a true copy of the original document) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the PTO. See MPEP 302-302.8] |
| The undersigned (whose title is supplied below) is empowered to act on behalf of the assignee.  |
| Date: \   |
| Name: David J. Glass, Ph.D.   |
| Title: Associate Director for Patents, Office of Technology Affairs   |
| Signature:  |
| P:\USERS\DENISEB\CERTIFIC\06094631<br>SKGF Rev.11/10/98 mac   |



## ASSIGNMENT

In consideration of the sum of One Dollar (\$1.00) or equivalent and other good and valuable consideration paid to each of the undersigned inventors: (1) F. Richard Bringhurst, (2) Hisashi Takasu and (3) Thomas J. Gardella, the undersigned inventor(s) hereby sell(s) and assign(s) to The General Hospital Corporation, Fruit Street, Boston, MA (the Assignee) his/her entire right, title and interest, including the right to sue for past infringement and to collect for all past, present and future damages:

check applicable box(es) ☐ for the United States of America (as defined in 35 U.S.C. § 100), ☐ and throughout the world,

- (a) in the invention(s) known as Amino-Terminal Modified Parathyroid Hormone (PTH) Analogs for which application(s) for patent in the United States of America has (have) been executed by the undersigned on (1) ; (2) ; and (3) (also known as United States Application No. 09/447,800, filed November 23, 1999), in any and all applications thereon, in any and all Letters Patent(s) therefor, and
- (b) in any and all applications that claim the benefit of the patent application listed above in part (a), including continuing applications, reissues, extensions, renewals and reexaminations of the patent application or Letters Patent therefor listed above in part (a), to the full extent of the term or terms for which Letters Patents issue, and
- (c) in any and all inventions described in the patent application listed above in part (a), and in any and all forms of intellectual and industrial property protection derivable from such patent application, and that are derivable from any and all continuing applications, reissues, extensions, renewals and reexaminations of such patent application, including, without limitation, patents, applications, utility models, inventor's certificates, and designs together with the right to file applications therefor; and including the right to claim the same priority rights from any previously filed applications under the International Agreement for the Protection of Industrial Property, or any other international agreement, or the domestic laws of the country in which any such application is filed, as may be applicable;

all such rights, title and interest to be held and enjoyed by the above-named Assignee, its successors, legal representatives and assigns to the same extent as all such rights, title and interest would have been held and enjoyed by the Assignor had this assignment and sale not been made.

The undersigned inventor(s) agree(s) to execute all papers necessary in connection with the application(s) and any continuing (continuation, divisional, or continuation-in-part), reissue, reexamination or corresponding application(s) thereof and also to execute separate assignments in connection with such application(s) as the Assignee may deem necessary or expedient.

The undersigned inventor(s) agree(s) to execute all papers necessary in connection with any interference or patent enforcement action (judicial or otherwise) related to the application(s) or any continuing (continuation, divisional, or continuation-in-part), reissue or reexamination application(s) thereof and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such interference or patent enforcement action.

The undersigned inventor(s) hereby represent(s) that he/she has full right to convey the entire interest herein assigned, and that he/she has not executed, and will not execute, any agreement in conflict therewith.

The undersigned inventor(s) hereby grant(s) Robert Greene Sterne, Esquire, Registration No. 28,912; Edward J. Kessler, Esquire, Registration No. 25,688; Jorge A. Goldstein, Esquire, Registration No. 29,021; Samuel L. Fox, Esquire, Registration No. 30,353; David K.S. Cornwell, Esquire, Registration No. 31,944; Robert W. Esmond, Esquire, Registration No. 32,893; Tracy-Gene G. Durkin, Esquire, Registration No. 32,831; Michele A.

Cimbala, Esquire, Registration No. 33,851; Michael B. Ray, Esquire, Registration No. 33,997; Robert E. Sokohl, Esquire, Registration No. 36,613; Eric K. Steffe, Esquire, Registration No. 36,688; Michael Q. Lee, Esquire, Registration No. 35,239; Steven R. Ludwig, Esquire, Registration No. 36,203; Raz E. Fleshner, Esquire, Registration No. 34,331; John M. Covert, Esquire, Registration No. 38,759; and Linda E. Alcorn, Esquire, Registration No. 39,588; all of STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C., 1100 New York Avenue, N.W., Suite 600, Washington, D.C. 20005-3934, power to insert in this assignment any further identification that may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

IN WITNESS WHEREOF, executed by the undersigned inventor(s) on the date opposite his/her name.

Thomas J. Gardella

| Date: | 2/10/00    | Signature of Inventor: | F. Richard Bringhurst | 1 Sus | glit |
|-------|------------|------------------------|-----------------------|-------|------|
| Date: | 2/14/00    | Signature of Inventor: | Hisashi               | Takas | u/   |
|       | 2 / 2 (27) | ·                      | Hisashi Takasu        | NA    | 111. |

Signature of Inventor: